

Beyer Peacock & Company

Formed 150 Years Ago

A short review of their locomotive building until 1966, by Joe Lloyd.

It was 150 years ago, in 1854, that the partnership was formed between Charles Frederick BEYER (1813-1876) and Richard PEACOCK (1820-1889), both of them having been concerned with railways and locomotives practically all their working lives so far. They were personal friends through meeting each other in their previous work and together were involved in the establishment of the Institution of Mechanical Engineers in 1847.

Beyer, from Saxony, after coming to Britain on a study grant concerning textile machinery, later returned and entered the drawing office of Sharp, Roberts & Co. in Manchester and rose to become their Chief Engineer by 1843 but left in 1853.

Peacock, also from a humble background, after an apprenticeship with Fenton, Murray and Jackson, progressed rapidly and after several short duration appointments, was to take charge of the Locomotive Department of the Sheffield, Ashton & Manchester Railway, a company that had bought Sharp's engines when these two engineers would also have met.

So, at ages of 41 and 34 they decided in 1854 to found their own firm, chiefly "for the manufacture of locomotive engines".

An amount of £30,000 was needed to acquire the land, build and equip a Works, and they looked for a third partner to come in with them, with some capital. It was to have been one of the founders of the Midland Bank who was also the Treasurer of the Institution of Mechanical Engineers, Charles Geach, but sadly he died just after the initial 12 acres of land had been bought, and so instead Henry Robertson became the third partner, but only Beyer and Peacock were to devote their whole time to the business.

There was evidently speedy progress with the construction of Gorton Foundry as Beyer's diary records for 13th May 1854 that " we removed this morning to our new offices at Gorton".

The business started in a period of tremendous railway expansion and, with the reputations of Beyer and Peacock being already well known, orders quickly came in, with four of the first 28 orders in the order Book comprising 25 locomotives, The first locomotive order received was for 10 passenger engines (2-2-2) for the East Indian Railway and deliveries were completed by December 1855, but the first completed to leave the Works was in July 1855, one of 8 standard gauge passenger engines (also 2-2-2) for the Great Western Railway to Gooch's design for the Birmingham to Shrewsbury line.

By the end of the first 14 years partnership, 844 locomotives had been built at Gorton Foundry, 476 exported plus 40 to Ireland.

When Beyer died, Peacock and Robertson became the proprietors and then in 1883 they decided to transform the firm into a private limited company although their two families retained control, holding 12500 of the 17500 issued shares. By this time more than 2200 locomotives had been built, 60% exported, the highest year's output having been 131 in 1882.

The year 1902 was another company milestone as BP & Co. Ltd. converted into a Public Limited Company.

By 1902 a total of 4418 locomotives had been built, the maximum workforce in any year had been 2159 but fluctuated with work volumes, and there had been several 'slump' years when output had been down to as low as 52 engines but in 14 of the 20 years of the private company's existence (1883-1902) it had exceeded 100.

Trading circumstance were however changing and competition for orders had become more intense. By now most of the home railways could build their own, and even with most of the 'new build' then being for export, that was up against a continuing growth in manufacturing capacity at home and in various countries abroad. By 1903 many of the UK loco building firms were amalgamating, as with the North British Locomotive Company's formation. USA builders were producing large quantities of locomotives and their competitive prices from cheaper production methods were succeeding in a number of what had been traditional markets for 'British-made'.

The two very first Garratt articulated locomotives (BP 5292 & 5293) were made in 1909 at Gorton Foundry for the 2-foot gauge Dundas Tramway section of the Tasmanian Government Railway. Beyer Peacock had helped Herbert William Garratt (1864-1913) to develop his design and to register the Patent. His ideas had earlier been turned down by Kitsons. By September 1908 Garratt and BP had concluded an agreement setting down terms for the licenses, royalties, etc., and the resources of BP were made available to him, with their Samuel Jackson playing a very big part in achieving a practical design. He was to become the Works Director. Many other early schemes were prepared but none of those materialised into firm orders.

This very first Garratt design was novel in that the cylinders were positioned at the in-board ends of the engine units, no others were like that, and it was also a compound, a principle to be shared by only one other Garratt built in 1927 for Burma Railways (BP 6354).

The second Garratt to be built was also for the 2 foot gauge (BP 5407) in 1910 for the Darjeeling-Himalayan Railway. Perhaps not so commonly known, is that Garratt drew up licensing arrangements also with the Baldwin Locomotive Works, Henschel & Sohn and the Societe St. Leonard at Liege, Belgium, but of those only the last mentioned built any at that time and they were rather weird looking machines.

Garratt was dependent upon the royalties from sales of his Patent locomotives and the terms agreed with BP stipulated a payment of £2 per ton on all Garratts built, with BP having sole manufacturing rights in the UK. It appears that by the end of 1913, the year when Garratt died, advances to him had amounted to £583 - only 25 had by then been made. Western Australia had two orders, for 6 and 7 (in 1911 & 1913), with five other orders until then being for just one or two locomotives. The number had risen to 31 by 1915 when understandably there was a gap over the years of the First Great War, although orders had been placed by the South African Railways for deliveries that should have been in 1916 but delayed until 1919.

When the last of 7853 steam locomotives was completed in 1958, that total was made up of 4753 Tender Engines in 7 rail gauges, 19 wheel arrangements: 1735 Tank Engines in 12 rail gauges 21 wheel arrangements: 1115 Garratts in 9 rail gauges 15 wheel arrangements; with the balance made up of Tramway Engines; Railcoaches; CraneTanks; Mountain Rack Engines; Meyer-type; 6 diminutive 18" gauge Shop Engines; and one experimental Ljungstrom Turbine Condenser Locomotive.

The final order of Beyer-Garratts (the correct description from the 1928 expiry of Garratt's own Patent protection), was from a South West African industrial concern and by coincidence, like those first two, was for the 2 foot gauge. These final seven 2-6-2 + 2-6-2's were almost identical to the SAR's NG/G16 design and it came about that these were sold to the SAR as the Tsumeb Corporation had meanwhile changed their line's gauge to 3'6", and as it so happens three of those last 1958-built engines are now in North Wales, two already operating on the Welsh Highland

Railway between Caernarfon and Rhyd Ddu at the foot of Snowdon, including the very last one, BP 7868! About to join them on the WHR, is the now fully-restored very first Tasmanian Garratt having come by road from the Ffestiniog Railway's Boston Lodge Works and which in the course of dismantling was found to include some components of its twin K2. K1 is now to carry the name "HERBERT WILLIAM GARRATT", most appropriately.

Where did BP engines go? In sequence of first deliveries they went - in 1855 besides UK orders, to India; in 1856 to Sweden, Spain and Prussia; in 1857 to Ireland, Egypt, Belgium and Italy; in 1859 to Victoria and the Black Sea; in 1861 to Portugal; in 1863 to Holland; in 1864 to Turkey and Ceylon; in 1865 to New South Wales and Latvia; in 1866 to the Dutch East Indies and Norway; in 1867 to Germany; in 1868 to Finland (then part of Russia); in 1869 to South Australia; in 1870 to Denmark and Colombia; in 1873 to the Isle of Man; in 1874 to Uruguay; in 1875 to South Africa (Cape); in 1880 to Western Australia and Tasmania (in both cases to 'industrials' first); in 1881 to Brazil; in 1882 to Argentina and Japan; in 1886 to Costa Rica; in 1887 to Venezuela; in 1888 to Pennsylvania (the only engine made for the USA !); in 1889 to Mexico; in 1890 to Chile; in 1895 to Malta; in 1902 to Queensland; in 1904 to China; in 1905 to Cuba; in 1907 to Sudan; in 1908 to Peru; in 1913 to Burma and Bolivia; in 1915 to Rhodesia (the 6 out of their 237 from BP that weren't Garratts !); in 1919 to Nigeria; in 1923 to Tanganyika; in 1924 to Mozambique; in 1926 to Sierra Leone, and Kenya & Uganda; in 1927 to Angola, Malaya and Mauritius; in 1928 to New Zealand; in 1929 to Ecuador; in 1932 to Nepal; in 1934 to Persia and in 1939 to the Gold Coast. Engines built for the War Department went to France in 1916, and in the 1939-1945 conflict to Iraq, Libya, Palestine and French West Africa.

By the number of new engines ordered, BP's best customers were:

New South Wales Govt. R 622

Dutch State R 567

Buenos Aires Gt.S.R 416

South African R 303

Manchester, Sheffield & Lincs R/Gt. Central R 282

Buenos Aires & Rosario 239

Rhodesia R 237

London & South Western 230

Buenos Aires Western R 182

Midland R (UK) 166

Gt. Northern R of Ireland 154

South Australian R 138

British Govt/WD & Ministry of Supply 133

Swedish Govt R 128

East African R incl. Tanganyika & KUR 128

Nippon R 118

Lancashire & Yorkshire R 113

Western Australia Govt. R 109

Between 1949 and 1960 a jointly-owned subsidiary - Metropolitan Vickers, Beyer, Peacock Ltd. - constructed Electric, Diesel-Electric, and Mine 4-wheeled Battery Locomotives, at Bowesfield Works in Stockton-on-Tees, the existence of which was one of the reasons why no diesel locomotives were built at Gorton until after 1958. Between 1958 and 1962, BP in conjunction with Brush, built a number of Diesel-Electric Shunting Engines; and in 1961-4 produced for the Western Region 101 "Hymek" Diesel-Hydraulic Locomotives, with other types for British Railways :- 10 AC Electric Locomotives in 1960, 29 Type 1 DE Bo-Bo (Clay tons) in 1964/5, and 36 Type 2 (to become Class 25) DE Bo-Bo Locomotives in 1965/6, one of the latter being the final locomotive before the Works closure.

To an 'outsider', the 1966 closure was at least a surprise, yet with hindsight the same was happening to the other principal British locomotive builders. There could easily have been a

much, much earlier shut-down, with economic slumps in the early 1920s, despite which a new Boiler Shop costing £100,000 was completed in 1925 , (now the only surviving building on the site), and an even worse slump of worldwide effect in the 1930s, when workmen were laid off - practically all of them by the end of 1933, locomotive output plummeting steadily down to a mere 6 in 1934 until things began to buck up from 1936, whilst in the meantime other firms in the industry had merged or closed down altogether or were doing no more locomotive work.

On a happier note, it is nice to record that across the world than 350 Beyer Peacock built steam locomotives survive. The oldest of these is BP33 sent in 1856 to Sweden, and there are now fewer than 85 others built before 1900.